

FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST-6026
EXIDE CORPORATION

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INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST-6026. The Department of Ecology (the Department) is proposing to issue this permit, which will allow continued discharge of wastewater to city of Sumner municipal wastewater treatment plant. This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical basis for those decisions.

Washington State law [Revised Code of Washington (RCW) 90.48.080 and 90.48.160] requires that a permit be issued before discharge of wastewater to waters of the state is allowed. This statute includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities, which discharge into public waters of the state. Regulations adopted by the state include procedures for issuing permits, and establish requirements which are to be included in the permit [Chapter 173-216 Washington Administrative Code (WAC)].

This fact sheet and draft permit are available for review by interested persons as described in Appendix A—Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D—Response to Comments.

| GENERAL INFORMATION | |
|--------------------------------------|---|
| Applicant: | Exide Corporation |
| Facility Name and Address: | Exide Corporation 2005 Fryar Avenue P.O. Box 1210 Sumner, WA 98390 |
| Type of Facility: | SIC Code 3691: Manufacture of Lead Acid Batteries (Storage Batteries) SIC Code 2899: Manufacture of Battery Acid Preparations SIC Code 5013: Wholesale of Automotive Batteries. |
| Facility Discharge Location: | Latitude: 47° 12' 45" N Longitude: 122° 14' 24" W. |
| Treatment Plant Receiving Discharge: | city of Sumner Municipal Wastewater Treatment Plant |
| Contact at Facility: | Name: Ned Noel |
| Responsible Official: | Name: Ned Noel, Distribution Manager Address: 2005 Fryar Avenue P.O. Box 1210 Sumner, WA 98390 Telephone #: (253) 863-5134 |

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

HISTORY

Exide Corporation operates an auto battery manufacturing plant in Sumner, Washington. Process related wastewater is treated and then discharged to the city of Sumner sanitary sewer. The previous permit for the facility was issued on June 17, 1992. The permit was modified on January 27, 1993, in accordance with the Stipulated Settlement and Order of Dismissal (PCHB No. 92-133). The permit was due to expire on June 17, 1997. The facility submitted an application for permit renewal on time, and has been accepted as complete. The expiring permit remains effective until the permit is renewed. Since the issuance of the permit, Exide Corporation has completed the following plans: Facility Operation Plan, Solid Waste Control Plan, Stormwater BMP, and Spill Prevention and Countermeasure Plan (SPCC).

INDUSTRIAL PROCESSES

Pre-assembled dry lead-acid batteries are filled with sulfuric acid, formed (charged), washed, labeled, packaged, stored and shipped. The facility operates seventeen hours a day, five days a week.

Raw materials used in the manufacture of wet lead-acid batteries include approximately 4.36 million gallons of sulfuric acid (98%), 80,000 of 30-lb and 320,000 of 18-lb pre-assembled dry batteries. The acid is delivered by truck twice a week. Between 40,000 to 45,000 pounds of acid are stored on site in tanks in the acid tank farm. The sulfuric acid is diluted to 30 to 32 % before filling the dry batteries. When the batteries are charged, an acid mist is formed which is directed to a wet scrubber. Wastewater generated in the scrubber is sent to the existing treatment system. Wastewater is also produced from washing the batteries upon completion of the battery charging operation. This is also directed to the treatment system following reuse of the water for several washings when the pH becomes too low for continued reuse. Other wastewater sent to the treatment system include plant and equipment washdown, and acid delivery sump wastewater.

Caustic soda (NaOH) is used to neutralize wastewater and precipitate metals. The caustic is delivered in a 3400 pound roll-off.

TREATMENT PROCESSES

Wastewater first enters a reactor/mixer tank where caustic soda is added to elevate the pH to approximately 9.2 for metal precipitation. This is followed by solids removal with vacuum filtration using diatomaceous earth. The system uses two pH probes; one in the reactor tank and one in the discharge line to control pH.

DESCRIPTION OF THE RECEIVING MUNICIPAL WASTEWATER TREATMENT PLANT (WWTP)

The city of Sumner's WWTP is located at 1104 Maple Street, Sumner, Washington. The WWTP consists of secondary activated sludge treatment with chlorine disinfection and aerobic sludge digestion. The design capacity of the WWTP is as follows.

Dry weather maximum month = 2.62 MGD;
Maximum month TSS = 5200 lbs/day;

Maximum month BOD₅ = 5800 lbs/day
Average daily biosolids production = 1000 lbs/day.

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PERMIT STATUS

The previous permit for this facility was issued on June 17, 1992. The permit was modified on January 27, 1993, to include a limit on maximum monthly flow of 20,000 gallons, change the pH limit from 6 - 9 to 7.5 - 10, and change the lead limit from 0.25 mg/L and 0.29 mg/L, to 0.15 mg/L and 0.40 mg/L, for monthly average and daily maximum, respectively. These modifications were in accordance with a Stipulated Settlement and Order of Dismissal (PCHB No. 92-133) between Exide Corporation and the Department of Ecology. The permit contained the following effluent limitations.

Table 1. Effluent limitations in the permit issued on June 17, 1992, and as modified on January 27, 1992

| Parameter | Monthly Maximum | Monthly Average | Daily | Maximum |
|---------------|-----------------|---------------------------|-------|---------|
| Flow, gallons | 20,000 | | 3,500 | |
| Lead, mg/L | | 0.15 | 0.4 | |
| Copper, mg/L | | 0.19 | 0.49 | |
| pH | | In the range of 7.5 to 10 | | |

In the permit application (submitted in May 1997), the city of Sumner requested that the maximum daily flow be reduced to 2380 gallons. In addition to testing for copper, lead, cadmium and nickel and zinc, the city requested that Exide Battery should also be required to monitor for mercury, arsenic, BOD, TSS and FOG. Also, effluent limitation should be imposed for BOD, TSS, and FOG as per the agreement between the city and Exide Battery.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on September 3, 1998. The figures below show the compliance status of the facility with the various effluent limitations.

COMPLIANCE WITH COPPER LIMITATION:

The permit required that an effluent limitation of 0.19 mg/L monthly average and 0.49 mg/L daily maximum be met at the outfall from the effective date of the permit. The number of excursions for the last five years are shown below (see Table 2 and Figure 1). In the last five years there were six excursions of the monthly average limit and five excursions of the daily maximum limit. This is equivalent to 90% compliance with the monthly average limit, and 92% compliance with the daily maximum limit.

Table 2. Copper excursions since January 1995

| Date | Copper Concentration, mg/L | |
|-----------|----------------------------|-----------|
| | Monthly Average | Daily Max |
| 01-Nov-95 | 0.24 | 1.62 |
| 01-Oct-97 | 1.18 | 1.66 |
| 01-Nov-97 | 0.37 | 1.11 |
| 01-Feb-98 | | 0.52 |
| 01-May-98 | 0.20 | |
| 01-Aug-98 | 0.24 | |
| 01-Sep-98 | 0.33 | 0.61 |

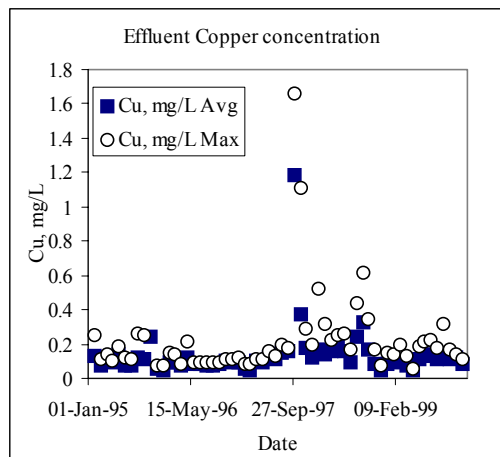


Figure 1. Effluent Copper Concentration

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COMPLIANCE WITH LEAD LIMITATION:

The permit required that an effluent limitation of 0.15 mg/L monthly average and 0.40 mg/L daily maximum be met at the outfall from the effective date of the permit. The number of excursions for the last five years are shown below (see Table 3 and Figure 2). In the last five years there were six excursions of the monthly average limit and nine excursions of the daily maximum limit. This is equivalent to 90% compliance with the monthly average limit and 85% compliance with the daily maximum limit.

Table 3. Lead excursions since January 1995

| Date | Lead Concentration, mg/L | |
|-----------|--------------------------|-----------|
| | Monthly Average | Daily Max |
| 01-Sep-95 | 0.21 | 0.8 |
| 01-Oct-95 | 0.21 | 0.74 |
| 01-Nov-95 | 3.33 | 27.3 |
| 01-Mar-96 | 0.19 | 0.65 |
| 01-Oct-97 | 1.92 | 3.14 |
| 01-Nov-97 | 0.75 | 3.78 |
| 01-Feb-98 | | 0.48 |
| 01-Aug-98 | | 0.5 |
| 01-Oct-98 | | 0.42 |

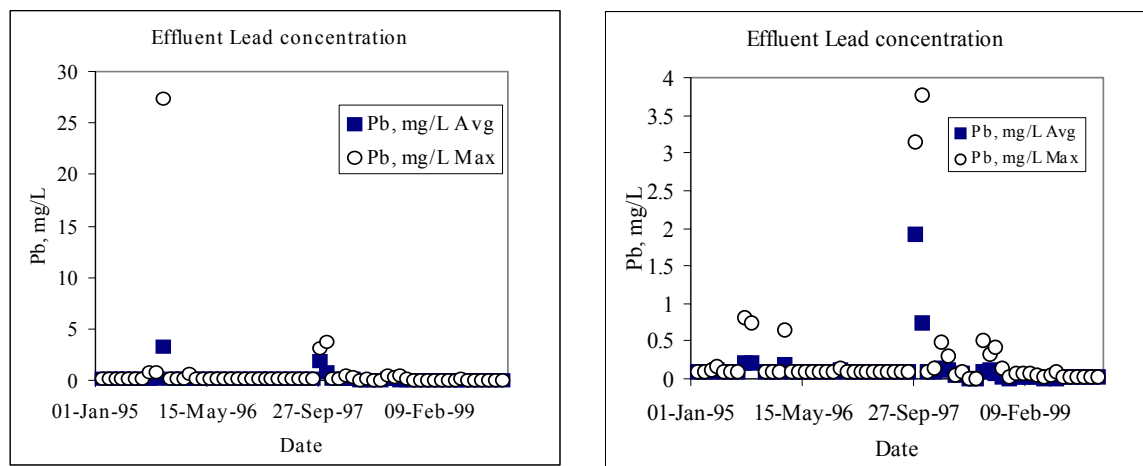


Figure 2. Effluent Lead concentrations with and without the outlier.

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COMPLIANCE WITH FLOW LIMITATION:

The permit required that an effluent limitation of 20,000 gallons monthly maximum and 3,500 gallons daily maximum be met at the outfall from the effective date of the permit. Figure 3 shows the effluent flow profile over the last five years. There were no excursions of the monthly average limit and no excursions of the daily maximum limit.

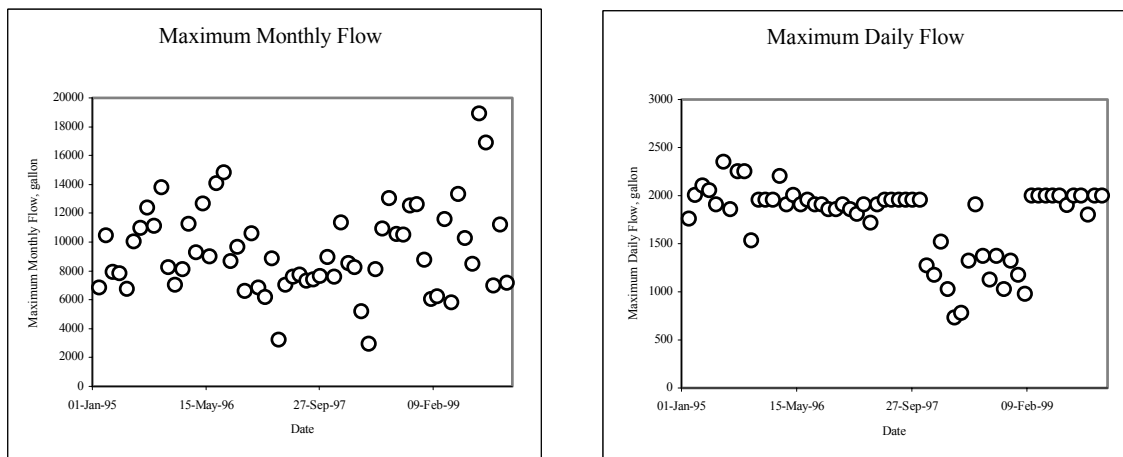


Figure 3. Effluent maximum monthly and daily flows

COMPLIANCE WITH pH LIMITATION:

The permit required that an effluent limitation of between 7.5 to 10 be met at the outfall from the effective date of the permit. Figure 5 shows the effluent pH over the last five years. There were no excursions of the pH effluent limitation.

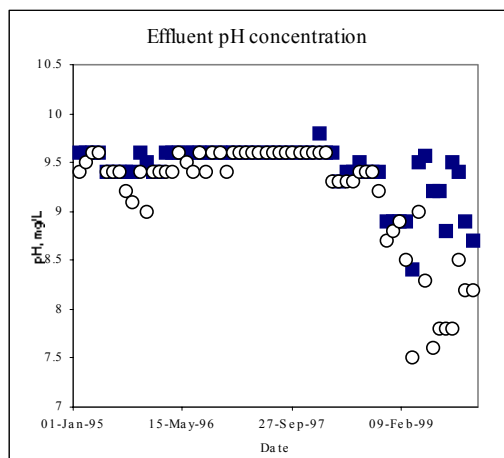


Figure 5. Effluent pH

WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the permit application and in discharge monitoring reports. The proposed wastewater discharge is characterized for the following parameters:

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Table 4. Wastewater Characterization

| | Average | Max | Min | 99th percentile |
|--------------------|---------|---------|---------|-----------------|
| Cd, mg/L | 0.02 | 0.05 | 0.001 | 0.05 |
| Cu, mg/L | 0.24 | 1.66 | 0.04 | 1.64 |
| Pb, mg/L | 0.71 | 27 | 0.01 | 13 |
| Ni, mg/L | 0.15 | 1.28 | 0.03 | 1.26 |
| Zn, mg/L | 0.23 | 4.00 | 0.03 | 3.20 |
| pH, su | 9.3 | 9.8 | 7.5 | 9.6 |
| Monthly flow, gal. | 9358 | 18900 | 2940 | 17720 |
| Daily Flow, gal. | 1771 | 2352 | 735 | 2294 |
| Monthly Production | 3710 | 5009 | 1877 | 5009 |
| *Arsenic, mg/L | | 0.12 | <0.02 | |
| *Mercury, mg/L | | 0.00026 | <0.0002 | |
| *BOD, mg/L | | 880 | 360 | |
| *TSS, mg/L | | 40 | 15 | |
| *FOG, mg/L | | 40 | 11 | |

* based on data for the year 1999-2000

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be based on the technology available to treat the pollutants (technology-based) or be based on the effects of the pollutants to the POTW (local limits). Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not interfere with the operation of the POTW.

The more stringent of the local limits-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by the Department must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110).

CATEGORICAL STANDARDS

The United States Environmental Protection Agency (EPA) has promulgated effluent guidelines and standards for the Battery Manufacturing Point Source Category in Code of federal regulations 40 CFR Part 461. Exide Battery Corporation falls under Subcategory C of 40 CFR Part 461 that deals with manufacture of lead anode batteries. Specifically, 40 CFR Part 461.34 deals with pretreatment standards for existing sources. Of the several operations that produce wastewater as considered in 40 CFR Part 461.34, only three apply to Exide Battery Corporation:

1. Open formation
2. Battery washing
3. Miscellaneous activities: battery filling, air scrubber, floor wash

The categorical effluent standards as contained in 40CFR Part 461.34 are summarized in Table 5. The facility operates five days a week and 52 weeks a year for a total of 260 days (5 x 52 = 260). Table 6 shows the total pounds of lead used on a daily basis at Exide Battery Corporation facility.

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Table 5. Pretreatment Standards for Existing Sources: *lead acid battery manufacturing process*

| Daily Maximum Limit (lb/1000,000lb of Pb used) | | | | | Monthly Average Limit (lb/1000,000lb of Pb used) | | | | |
|--|-----------|---------|------|-------|--|-----------|---------|------|-------|
| Pollutant | Formation | Washing | Misc | Total | Pollutant | Formation | Washing | Misc | Total |
| Copper (Cu) | 0.1 | 1.71 | 0.58 | 2.39 | Copper (Cu) | 0.053 | 0.90 | 0.31 | 1.263 |
| Lead (Pb) | 0.022 | 0.38 | 0.13 | 0.532 | Lead (Pb) | 0.010 | 0.18 | 0.06 | 0.25 |

Table 6. Maximum pounds of lead used per day.

| Battery type | Annual Batteries Manufactured | Pounds of lead used | |
|--------------|----------------------------------|---------------------|---------|
| | | per year | per day |
| 30- lb | 80,000 | 2.4×10^6 | 9231 |
| 18-lb | 320,000 | 5.76×10^6 | 22154 |

Based on the total limiting factors established in Table 5 and the total pounds of lead used ($9231+22154=31385$) every day (Table 6), the categorical (based on 40CFR Part 461.34) mass based effluent limit can be calculated in terms of pounds per day of lead and copper. The associated concentration based limit can also be calculated based on a daily maximum flow of 2380 gallons as stipulated in the agreement between the city of Sumner and Exide Battery Corporation. The resultant technology based limitation is presented in Table 7 below.

Mass based limit = {total factor (Table 5)} * {Total lb/day of lead used = 31385} ÷ 10^6
Concentration based limit = Mass based limit ÷ {8.34 * {flow (=2380 GPD)} * 10^{-6} }

Table 7. Categorical effluent limitation based on 40 CFR Part 461.34 and maximum daily flow of 2380 GPD.

| Pollutant | Daily maximum Limit | | Monthly Average Limit | |
|-----------|---------------------|------|-----------------------|------|
| | lb/day | mg/L | lb/day | mg/L |
| Copper | 0.075 | 3.8 | 0.039 | 1.96 |
| Lead | 0.017 | 0.86 | 0.008 | 0.40 |

PERFORMANCE BASED LIMITATION

Performance of the treatment system was evaluated based on application of statistical methods contained in Appendix E of: Technical Support Document of Water Quality-Based Toxics Control, U.S. EPA 440/4-032, 1985. The monthly average and daily maximum performance-based-effluent concentrations were calculated using the current effluent data from February 1995, through January 2000. The performance was determined by transforming the effluent data to the natural logarithm, calculating log-space statistics (which better represent a normal distribution), and transforming the results back from log-space. Daily maximum and monthly average values are shown in Appendix C and shown below.

Table 8. Performance based limitations for copper and lead (see Appendix C).

| Parameter | Daily Maximum (mg/L) | Monthly Average (mg/L) |
|-----------|----------------------|------------------------|
| Copper | 0.5 | 0.2 |
| Lead | 0.7 | 0.2 |

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OVERALL TECHNOLOGY BASED EFFLUENT LIMITATIONS FOR COPPER AND LEAD

The previous permit limitations for copper (see Table 1) is similar to the performance-based limitation (Table 8) and stringent than the categorical standards (Table 7). The performance-based limitation, which the facility can statistically achieve, would be used as the technology based effluent limitation for copper.

For lead, the limitation in the previous permit (Table 1) is more stringent than the performance based limit (Table 8) and the categorical standards (Table 7). However, the monthly average limit in the previous permit (0.15 mg/L) is similar to the performance based monthly average limit of 0.2 mg/L. However, the performance based daily maximum limit (0.7 mg/L) is higher than the previous permit limit of 0.4 mg/L. However, the daily maximum limits in the previous permit were based upon local limits and performance and later modified during litigation as shown below.

| Parameter | Local Limit | previous | daily maximum limits | | current |
|------------|-------------|-------------|----------------------|------------------|-------------|
| | | performance | before litigation | after litigation | performance |
| Lead, mg/L | 0.29 | 0.9 | 0.29 | 0.4 | 0.7 |

The daily maximum limit would be based upon current performance at 0.7 mg/L. As shown in the following section, this limit is also protective of City of Sumner POTW from pass-through or interference.

EFFLUENT LIMITATIONS BASED ON LOCAL LIMITS

In order to protect the city of Sumner POTW from pass-through or interference, existing concentrations of toxic chemicals in the proposed discharge must be evaluated to determine if potential exists for impairment of beneficial or designated uses of sludge, inhibition of the activated sludge process at the POTW, and water quality impacts on receiving waterbody from passthrough. These aspects are discussed below.

pH

40 CFR 403.5 requires that the pH of the proposed discharge be such as not to cause corrosive structural damage to the POTW, nor cause interference with the activated sludge treatment process. 40 CFR 403.5 (b)(2) mandates that pH never be below five to prevent corrosive damage to the POTW.

The categorical pretreatment standards for existing sources (PSES) contained in 40 CFR Part 461.34 do not contain any limitation on pH. However, the "best practicable control technology currently available" (BPT) for the industry as contained in 40 CFR Part 461.31, requires that the pH be between 7.5 and 10 at all times. This pH limitation is also in accord with the Stipulated Settlement and Order of Dismissal (PCHB No. 92-133). This range of pH is not expected to be detrimental to the city of Sumner collection and treatment system.

BOD/TSS/FOG

The maximum BOD discharge recorded at Exide Battery is 880 mg/L. For a maximum allowable flow of 3500 gallons per day, the total pounds of BOD discharged is 26 pounds. This is insignificant based on the city WWTP BOD design capacity of 5800 lbs/day. The maximum recorded TSS and FOG discharge at Exide is 40 mg/L. This is deemed insignificant. No effluent limitation would be imposed for these parameters. However, since these parameters are included in the agreement between the city and Exide Battery, monitoring for these parameters would be required on a quarterly basis. This does not relieve Exide Battery from any surcharges that may be imposed by the city of Sumner for any exceedence of limitations included in the agreement.

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METALS

40 CFR 403.5 also requires that any proposed discharge not cause an interference with the ultimate use and disposal of municipal wastewater treatment plant (WWTP) sludge. 40 CFR 503 mandates that if WWTP sludge is reused on agricultural land, forest, public contact site, reclamation site, or on a lawn or home garden; metals concentrations in sludge must not exceed concentrations indicated in Table 9. Typical domestic wastewater metal concentrations in city of Sumner are also shown in Table 9. Typical metals partitioning during activated sludge process (EPA 1987) is also included in Table 9.

Table 9. Maximum allowable metal concentrations in municipal WWTP sludge, concentrations in typical domestic wastewater and typical partitioning of metals in to sludge.

| Metals | Concentration limitation based on land application of sludge (40 CFR 503.13) (mg/Kg)* | Sumner domestic wastewater metals conc. (mg/L) | Activated sludge inhibition levels (mg/L) | Average % removal in activated sludge process (%) |
|---------|--|---|---|--|
| Arsenic | 41 | 0.003** | 0.1 | 45 |
| Copper | 1500 | 0.07 | 1 | 86 |
| Lead | 300 | 0.007 | 0.1 -5 | 61 |
| Cadmium | 39 | <0.0005 | 1-100 | 67 |
| Mercury | 17 | <0.0002 | 0.1- 1 | 60 |
| Nickel | 420 | <0.005 | 1-2.5 | 42 |
| Zinc | 2800 | 0.07 | 0.08 - 5 | 79 |

* dry weight basis

** typical domestic wastewater concentration (EPA 1987). The actual conc. at city of Sumner is below a detection level of

0.01. Thus, the typical conc. is used here.

Using the 99th percentile effluent concentration of metals and maximum daily flow at Exide Battery (see Table 4), and the design daily maximum flow for the city of Sumner WWTP and the metal removal efficiencies (EPA 1987) in the WWTP activated sludge process (Table 9 above), the metal concentrations influent to the city WWTP can be predicted as shown in Table 10 below.

Table 10. Predicted WWTP influent concentrations

| Metals | Predicted WWTP influent conc. |
|---------------|-------------------------------|
| Arsenic, mg/L | 0.003 |
| Copper, mg/L | 0.07 |
| Lead, mg/L | 0.02 |
| Cadmium,mg/L | 0.0005 |
| Mercury, mg/L | 0.0002 |
| Nickel, mg/L | 0.006 |
| Zinc, mg/L | 0.073 |

The predicted WWTP influent concentrations in Table 10 above indicate that none of the metals would inhibit the activated sludge process. The predicted biosolids concentration and WWTP effluent concentration based on typical removal efficiency is shown in Table 11 below. Also shown in Table 11 are the predicted concentrations of metals at the edge of the mixing zone. The dilution factors at the edge of the acute and chronic mixing zone for the city's discharge into the White River has been established at 2.1 and 21.1, respectively. These numbers are obtained from city of Sumner's NPDES permit No. WA-002335-3. The water quality standards are also based upon receiving water hardness evaluation contained

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in the city of Sumner NPDES permit No. WA0023353. Comparing the predicted biosolids concentration to the maximum allowed by 40 CFR 503.13 (see Table9), it can be concluded that the beneficial use of biosolids on land will not be impacted by discharge at Exide Battery. The predicted concentrations at the edge of mixing zones are also within the state water quality standards.

Table 11. Predicted concentration in biosolids and at edge of mixing zone.

| Metals | Conc. in biosolids POTW | | Conc. At the edge of mixing zones (ug/L) | | Water Quality Standards (µg/L) | |
|---------|-------------------------|---------------|--|---------|--------------------------------|---------|
| | (mg/Kg) | Effluent ug/L | acute | chronic | acute | chronic |
| Arsenic | 31 | 2 | 0.81 | 0.08 | 360 | 190 |
| Copper | 1343 | 10 | 4.76 | 0.47 | 9.5 | 3.7 |
| Lead | 251 | 7 | 3.49 | 0.35 | 35 | 0.6 |
| Cadmium | 8 | 0.18 | 0.09 | 0.01 | 1.8 | 0.38 |
| Mercury | 3 | 0.08 | 0.04 | 0.0038 | 2.4 | 0.012 |
| Nickel | 56 | 4 | 1.70 | 0.17 | 810 | 50 |
| Zinc | 1259 | 15 | 7.28 | 0.72 | 67 | 34 |

Data in Table 12 was collected by the city of Sumner during the year 1999-2000. As indicated, the biosolids concentration of metals are significantly less than the maximum allowable for land application as shown in Table 9 above. Also, the influent concentrations are below the concentrations that would inhibit activated sludge process (see Table 9 above) at the city WWTP.

Table 12. Influent, effluent and biosolids concentration for city of Sumner WWTP (1999-2000).

| Metals | Influent mg/L | Effluent mg/L | Biosolids mg/Kg | Conc. At the edge of mixing zones (ug/L) | | Water Quality Standards (µg/L) | |
|---------|---------------|---------------|-----------------|--|---------|--------------------------------|---------|
| | | | | acute | chronic | acute | chronic |
| Arsenic | <0.01 | | 14 | | | 360 | 190 |
| Copper | 0.07 | 0.011 | 950 | 5.2 | 0.52 | 9.5 | 3.7 |
| Lead | 0.007 | 0.001 | 39 | 0.48 | 0.05 | 35 | 0.6 |
| Cadmium | <0.0005 | 6 | | | 1.8 | 0.38 | |
| Mercury | <0.0002 | 0.0002 | 3.7 | | | 2.4 | 0.012 |
| Nickel | <0.005 | | 16 | | | 810 | 50 |
| Zinc | 0.07 | 0.041 | 690 | 19.5 | 1.94 | 67 | 34 |

The potential impact of metals on the activated sludge process, beneficial use of biosolids, and pass-through impacts on water quality (see Table 12) is insignificant. However, since these metals are present in the discharge from Exide Battery, they will be required to be monitored. With the exception of copper and lead, which are part of the categorical standards (40CFR Part 461.34) and required to be monitored for each batch discharge, the other metals will be required to be monitored on a quarterly basis only.

COMPARISON OF LIMITATIONS WITH THE EXISTING PERMIT ISSUED JUNE 17, 1992

| Parameter | Existing Permit | | | Proposed permit | | |
|--------------|---------------------------|--------------|--------------|---------------------------|-------------|--------------|
| | Daily Max | Monthly Max. | Monthly Avg. | Daily Max | Monthly Max | Monthly Avg. |
| Lead, mg/L | 0.4 | | 0.15 | 0.7 | | 0.2 |
| Copper, mg/L | 0.49 | | 0.19 | 0.5 | | 0.2 |
| pH | In the range of 7.5 to 10 | | | In the range of 7.5 to 10 | | |

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| | Existing Permit | | | Proposed permit | | |
|---------------|-----------------|--------|--|-----------------|--------|--|
| Flow, gallons | 3,000 | 20,000 | | 2,380 | 20,000 | |

The proposed permit limitations for the daily maximum flow has been changed from 3,000 gallons to 2,380 gallons as per the City of Sumner request (letter from City of Sumner to Exide Battery, dated April 25, 1997) and agreement with Exide Battery (industrial wastewater treatment agreement between City of Sumner and Wattles Company, dated May 12, 1994). The effluent limitation for copper is essentially the same as the previous permit. The effluent limitation for lead is higher than the previous permit and is based upon existing treatment performance.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, and that effluent limitations are being achieved (WAC 173-216-110).

The monitoring schedule is detailed in the proposed permit under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 273-216-110 and 40 CFR 403.12 (e),(g), and (h)).

OPERATIONS AND MAINTENANCE

The proposed permit contains condition S.4. as authorized under Chapter 173-240-150 WAC and Chapter 173-216-110 WAC. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

PROHIBITED DISCHARGES

Certain pollutants are prohibited from being discharged to the POTW. These include substances that cause pass-through or interference, pollutants which may cause damage to the POTW or harm to the POTW workers (Chapter 173-216 WAC) and the discharge of designated dangerous wastes not authorized by this permit (Chapter 173-303 WAC).

DILUTION PROHIBITED

The Permittee is prohibited from diluting its effluent as a partial or complete substitute for adequate treatment to achieve compliance with permit limitations.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste.

This proposed permit requires, under the authority of RCW 90.48.080, that the Permittee update the solid waste plan designed to prevent solid waste from causing pollution of the waters of the state and submit it

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to the Department. The plan must also be submitted to the local solid waste permitting agency for approval, if necessary.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to POTW permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Conditions G7 and G8 relate to permit renewal and transfer. Condition G9 requires the Permittee to control production or wastewater discharge in order to maintain compliance with the permit. Condition G10 prohibits the reintroduction of removed pollutants into the effluent stream for discharge. Condition G11 requires the payment of permit fees. Condition G12 describes the penalties for violating permit conditions.

PUBLIC NOTIFICATION OF NONCOMPLIANCE

A list of all industrial users which were in significant noncompliance with Pretreatment Standards or Requirements during any of the previous four quarters may be annually published by the Department in a local newspaper. Accordingly, the Permittee is apprised that noncompliance with this permit may result in publication of the noncompliance.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics. The Department proposes that the permit be issued for a period not to exceed June 30, 2004. The Department normally proposes to issue permits for the regulatory maximum duration of five years. However, the Department is currently attempting to get all the permits in Basin 1 (South Puget Sound) to have the same issuance and expiration date. Six months prior to the expiration date the Permittee is required to submit a letter indicating whether material and process changes have occurred at the permitted facility. Based on this letter the permit may be reissued by June 30, 2004, for a normal duration of five years. However, the Permittee

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must submit a complete permit application, at the time of renewal (six months prior to expiration), if significant process or material changes have occurred during the proposed permit duration.

REFERENCES FOR TEXT AND APPENDICES

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.
1987. Guidance Manual on the Development and implementation of Local Discharge Limitations Under the Pretreatment Program. EPA. Office of Water Enforcement and Permits
Washington State Department of Ecology.
1994. Permit Writer's Manual. Publication Number 92-109

APPENDICES

APPENDIX A—PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations, which are described in the rest of this fact sheet.

Public notice of application was published on September 5, and 12, 1999, in the *Tacoma News Tribune* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft Permit (PNOP) in the *Tacoma News Tribune* to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, Washington 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the 30 day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least 30 days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360) 407-6280, or by writing to the address listed above.

This permit was written by Anise Ahmed, P.E.

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APPENDIX B—GLOSSARY

Ammonia—Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation—The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass—The intentional diversion of waste streams from any portion of the collection or treatment facility.

Categorical Pretreatment Standards—National pretreatment standards specifying quantities or concentrations of pollutants or pollutant properties which may be discharged to a POTW by existing or new industrial users in specific industrial subcategories.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample—A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity—Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring --Uninterrupted, unless otherwise noted in the permit.

Engineering Report—A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater

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facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Grab Sample—A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial User—A discharger of wastewater to the sanitary sewer which is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

Industrial Wastewater—Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Interference— A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal and;

Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Local Limits—Specific prohibitions or limits on pollutants or pollutant parameters developed by a POTW.

Maximum Daily Discharge Limitation—The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Pass-through— A discharge which exits the POTW into waters of the—State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of State water quality standards.

pH—The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Potential Significant Industrial User--A potential significant industrial user is defined as an Industrial User which does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

- a. Exceeds 0.5 % of treatment plant design capacity criteria and discharges <25,000 gallons per day or;

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- b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the POTW (e.g. facilities which develop photographic film or paper, and car washes).

The Department may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Significant Industrial User (SIU)--

- 1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;
- 2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

*The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.

Slug Discharge—Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge to the POTW. This may include any pollutant released at a flow rate which may cause interference with the POTW.

State Waters—Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater—That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit—A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria—A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids—That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of

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various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

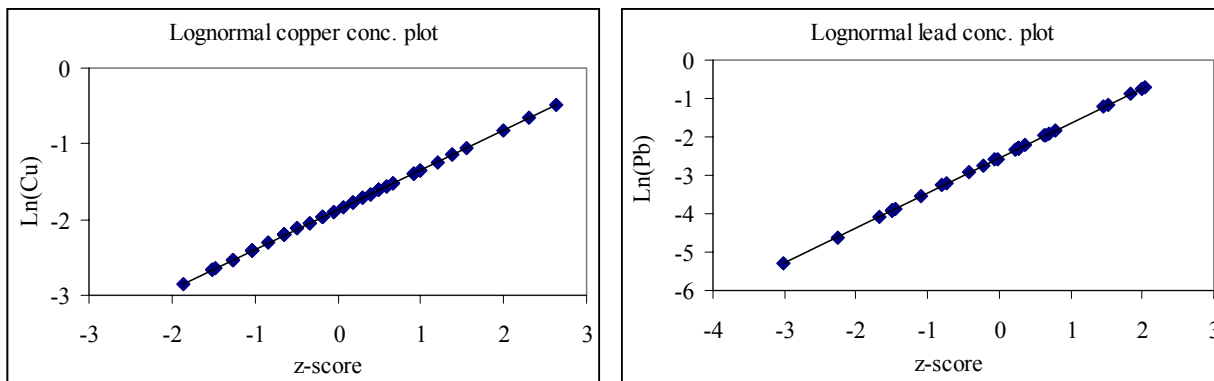
Water Quality-based Effluent Limit—A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

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APPENDIX C—TECHNICAL CALCULATIONS

Performance Based Effluent Limitation

Data from February 1995 through January 2000 was evaluated. Data was first transformed by taking the lognormal of the effluent concentrations and the transformed data was plotted with its associated z-scores. The resultant graphs for both copper (Cu) and Lead (Pb) are shown below. The graphs indicate that the data follow a lognormal distribution.



In plotting the data for copper all concentrations above 0.6 mg/L were neglected as not reflective of normal operation of the treatment system. All data above 0.6 mg/L resulted in an excursion of the monthly average effluent limitation.

Similarly, for lead any effluent concentration greater than 0.65 mg/L that resulted in excursion of the monthly average limitation was excluded.

Based on the lognormal transformed data, the following statistical summary is generated.

| | Cu | Pb |
|---|--------|---------|
| Mean (μ) | -1.867 | -2.5418 |
| Standard Deviation (σ) | 0.525 | 0.9119 |
| Variance (σ^2) | 0.276 | 0.8315 |
| $E = \text{Exp}(\mu + 0.5\sigma^2)$ | 0.177 | 0.1193 |
| $V = [\text{Exp}(2\mu + \sigma^2)][\text{Exp}(\sigma^2)-1]$ | 0.01 | 0.0185 |
| Average number of samples per month (n) | 7 | 7 |
| $\sigma_n^2 = \text{Ln}(V/nE^2 + 1)$ | 0.044 | 0.17 |
| $\mu_n = \text{Ln}(E) - 0.5\sigma_n^2$ | -1.751 | -2.211 |

An average of seven samples of the effluent were collected every month. This is based on sampling every batch discharge. The number of samples varied from 2 to 16 per month.

Based on the procedure contained in the Technical Support Document for Water Quality-based Toxics Control (EPA, 1991), the daily maximum and the monthly average effluent limitations are calculated as below:

$$\text{Daily maximum limit} = \text{Exp}(\mu + 2.326\sigma)$$

$$\text{Average monthly limit} = \text{Exp}(\mu_n + 1.645\sigma_n)$$

Thus, the performance based effluent limitation for Copper and lead are as follows:

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| Parameter | Daily Maximum (mg/L) | Monthly Average (mg/L) |
|-----------|----------------------|------------------------|
| Coper | 0.5 | 0.2 |
| Lead | 0.7 | 0.2 |

APPENDIX D—RESPONSE TO COMMENTS

Public comments were accepted on the draft permit for a 60-day period. At the close of the public comment period (October 25, 2000) Ecology received comments from the following interested parties:

1. Karen Dinicola, Citizens for a Healthy Bay

After a review of comments, the permit has been revised as appropriate. All responses to these comments should be considered as an addendum to the fact sheet (statement of basis) for this permit.

Response to comments from Citizens for a Healthy Bay

Comment: The proposed permit would allow increased discharges of copper and lead from the facility to the City of Sumner sanitary sewer. The Clean Water Act clearly prohibits backsliding with regard to allowable concentration and loading limits in previous permits. The draft permit allows the same monthly flows to contain, on average, 25% more lead and 5% more copper. On any given day, the allowable lead concentration and load discharged from the facility could be 75% and 60% greater than that allowed by the existing permit.

Response: In the previous permit the performance of the treatment system was evaluated to result a lead effluent limit of 0.9 mg/L (daily maximum) and 0.25 mg/L (monthly average). However, the final daily maximum limit was based upon meeting a local limit (0.29 mg/L) calculated using an EPA Prelim software which assumed a 50 percent safety factor due to lack of site specific data. These limitations were later changed through litigation. The final limitations were 0.4 mg/L daily maximum and 0.15 mg/L monthly average, as per a Stipulated Settlement and Order of Dismissal (PCHB No. 92-133).

The current fact sheet evaluates the performance of the treatment system and establishes a daily maximum and monthly average limit of 0.7 mg/l and 0.2 mg/L, respectively. These are more stringent than those calculated in the previous permit based on performance. The impact on the City of Sumner POTW has been evaluated with actual site-specific data. Ecology believes that the effluent limitations for lead are protective of the City of Sumner POTW, pass through water quality impacts, and are more stringent than federal categorical limitations (0.86 mg/L daily maximum and 0.4 mg/L monthly average).

Ecology believes that the effluent limitations are based upon actual performance of the facility and an evaluation of site specific data for impact on City of Sumner POTW. The limits are based on an evaluation of new data. Ecology believes that this does not constitute backsliding.

The effluent limitation for copper are essentially the same as the previous permit, and are based on performance of the facility.

Action Taken: None